WHAT IS CLAIMED IS:

1. A method of manufacturing a low air-permeability flexible polyurethane foam block through an employment of at least polyol, an isocyanate compound, a catalyst, a foaming agent and a foam stabilizer; said method being featured in that:

an open-cell flexible polyurethane foam block having an air-permeability of not more than 5cc/cm^2/sec is enabled to be formed without accompanying an opening of the cells step called healthy bubble.

2. The method of manufacturing a low air-permeability flexible polyurethane foam block according to claim 1, wherein said foam stabilizer is formed of polysiloxane-polyoxyalkylene copolymer which is featured in that it is provided, at a terminal of polyoxyalkylene chain, with a functional group which is capable of chemically bonding to an isocyanate group, that said polyoxyalkylene chain has a number average molecular weight ranging from 150 to 1500, and that a weight ratio between ethylene oxide and propylene oxide in said polyoxyalkylene chain is in the range of 70/30 to 0/100.

3. The method of manufacturing a low air-permeability flexible polyurethane foam block according to claim 2, wherein a terminal of said polyoxyalkylene chain of the polysiloxane-polyoxyalkylene copolymer is constituted by hydroxyl group.

4. The method of manufacturing a low air-permeability flexible polyurethane foam block according to claim 1, wherein the polyol moiety is constituted by polyether polyol.

5. The method of manufacturing a low air-permeability flexible polyurethane foam block according to claim 2, wherein the polyol moiety is constituted by polyether polyol.

6. The method of manufacturing a low air-permeability flexible polyurethane foam block according to claim 3, wherein polyol moiety is constituted by polyether polyol.

7. The method of manufacturing a low air-permeability flexible polyurethane foam block according to claim 1, wherein the polyol moiety is constituted by polyurethane prepolymer to be synthesized through a reaction between polyether polyol and isocyanate compound.

8. The method of manufacturing a low air-permeability flexible polyurethane foam block according to claim 2, wherein the polyol moiety is constituted by polyurethane prepolymer to be synthesized through a reaction between polyether polyol and isocyanate compound.

9. The method of manufacturing a low air-permeability flexible polyurethane foam block according to claim 3, wherein the polyol moiety is

constituted by polyurethane prepolymer to be synthesized through a reaction between polyether polyol and isocyanate compound.

10. The method of manufacturing a low air-permeability flexible polyurethane foam block according to claim 1, wherein a hydrocarbon compound which is excellent in fluidity is further employed as an additive.

11. The method of manufacturing a low air-permeability flexible polyurethane foam block according to claim 2, wherein a hydrocarbon compound which is excellent in fluidity is further employed as an additive.

12. The method of manufacturing a low air-permeability flexible polyurethane foam block according to claim 3, wherein a hydrocarbon compound which is excellent in fluidity is further employed as an additive.

13. The method of manufacturing a low air-permeability flexible polyurethane foam block according to claim 4, wherein a hydrocarbon compound which is excellent in fluidity is further employed as an additive.

14. The method of manufacturing a low air-permeability flexible polyurethane foam block according to claim 5, wherein a hydrocarbon compound which is excellent in fluidity is further employed as

an additive.

15. The method of manufacturing a low air-permeability flexible polyurethane foam block according to claim 6, wherein a hydrocarbon compound which is excellent in fluidity is further employed as an additive.

16. The method of manufacturing a low air-permeability flexible polyurethane foam block according to claim 7, wherein a hydrocarbon compound which is excellent in fluidity is further employed as an additive.

17. The method of manufacturing a low air-permeability flexible polyurethane foam block according to claim 8, wherein a hydrocarbon compound which is excellent in fluidity is further employed as an additive.

18. The method of manufacturing a low air-permeability flexible polyurethane foam block according to claim 9, wherein a hydrocarbon compound which is excellent in fluidity is further employed as an additive.

19. A low air-permeability flexible polyurethane foam block which is formed through any one of the methods claimed in claims 1 to 18, said flexible polyurethane foam block being useful as a cushioning material, a sound absorbing material, an air-sealing material or a water sealing material.